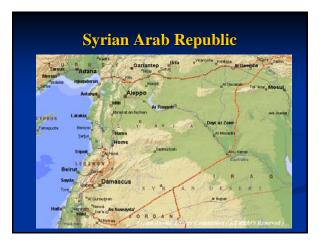
Strengthening Newborn Screening in North Africa and the Middle East Marrakech, Morocco, 13-15 November 2006

Country Report
Syrian Arab Republic
Dr. M. A. BAKIR
Head of Nuclear Medicine Division
Atomic Energy Commission of Syria



Demographic and economic data

Location: Arab World (Middle East)

■ Country Surface: 185.200 km²

Population: 18.600.000 (2005)
 Population Density: 100.4 / km²

Capital: Damascus,

Population: 3-5 million (official

estimate 2003)

Demographic and economic data

< 18 years = 48 %</p>

> 60 years = 4.7 %

Crude Death rate: 5/1000

Birth rate: 28/1000

• Infant mortality rate (death/1000 live births): 25

• Total fertility rate (children born/woman): 3.5

Demographic and economic data

• Life expectancy: Male: 68.7 Female: 72.3

GDP: 12.5 billion USD

• Total health exp. as % of GDP: 2.5 %

Total health exp. / capita 65 USD

• Organisation of the health system:

33.6 % Public 66.4 % Private

Demographic and economic data

Human resources:

* 23784 physician

* 12228 dentists

* 27913 nurses

* 5081 midwifes

* 13339 technicians

Demographic and economic data

- Total No. of beds:
 - * 12418 in Public hospitals
 - * 6003 in Private hospitals
 - * Average person/bed = 848

Demographic and economic data

Consanguinity rate: 20-50 (32 %)

• First – cousin marriages: 60 %

The trend of Consanguinity is Syria is declining Now .. (Health awareness)

The only new born Screening Programme in Syria is:

"The Neonatal Screening for Congenital Hypothyroidism"

- This programme was organised to cover the major cities in the country: (Damascus, and surrounding areas, Tartous, Lattakia) through regional IAEA project.
- All Blood Specimens taken from various medical centers and hospitals were analyzed at the central Lab at SAEC (Damascus)
- Most of the reagents used in the tests (TSH, T4) were prepared locally (SAES) with the support of the IAEA.
- 67280 newborn babies (age 4 days) were screened in this project between the years 1995-2003

- 33 cases were confirmed to have hypothyroidism (1:2000)
- The SAEC is now discussing with the health ministry the possibility to transfer this program to the health ministry to be conducted at national level as a permanent program.
- The technologies used for newborn screening in Syria were RIA, IRMA.

- The existing barriers in developing or improving newborn screening program in Syria:
 - Enough financial resources
 - Equipment to establish a central Lab at major cities level
 - Reagents (preferably locally produced reagents)

The genetic diseases are most prevalent in Syria

- 1. Congenital malformations
- Chromosomal disorders: mainly DOWN Syndrome

18-25	Years	1:150
25-35	Years	1:650
35-40	Years	1:300
40-45	Years	1:150
> 45	Years	1:50

Thalassemia: 6 % carriers7000 cases

Sickle cell anemia: 6 % carriers 2000 cases

G6PD: 20 000 cases

confirmed in central clinic

Congenital hypothyroids: 1: 2000

 Phenylketonuria: 73 cases under follow-up in one main center in the last 5 years

 Cystic fibrosis: 44 cases under follow-up in one main center in the last 5 years another 20 cases are currently under diagnosis

The conditions we would like to screen for

- 1. Thalassemia
- 2. Sickle cell anemia
- G6PD
- 4. Congenital hypothyroidism
- 5. Phenylketonuria
- 6. Cystic fibrosis

Follow-up the genetic conditions after they are identified

- 1. The best possible patient treatment
- 2. Follow up
- 3. Genetic counseling for parents

There is no birth defects registry in Syria



